Editorial

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Dear colleagues, welcome to the fourth, and penultimate, newsletter for the GRACE project as we near its completion in November.

Last time we approached you through our newsletter, the consortium was fully emerged in the 2nd pilot activities. Happily we can now comment on the organisation and execution of the multiple pilot activities within the 2nd run in this release.

The last piloting stage was dedicated to the testing of an Alpha prototype of the GRACE Collaborative Platform, and it is my pleasure to announce that positive feedback and a number of constructive comments have been received from the exercise.

The GRACE partners are now committed to improving on the changes discussed and finalise the developments on a tight schedule, so as to release the Beta version of the GRACE Collaborative Platform, while presenting it to a wider group of external stakeholders, at a demonstration workshop we will hold in mid June.

From the Beta prototype, only a small step will be needed to finalise the whole three and a half year's period of hard of work, so as to conclude the project through last pilot and final project conference, both scheduled to take place in autumn this year.

Soon we will be to happy to announce the dates of the final GRACE conference event, keep tuned!

Don't forget to visit our website and follow us on social media for up-to-date project information, more details on this can be found on the last page.

With kind regards,

Peter

Key project activities

I•Nicosia Risk forum 2022

On November 15th & 16th 2022, GRACE partner European University Cyprus organized the third edition of the Nicosia Risk Forum (NRF2022) in Larnaca (Cyprus). NRF is a merging point for civil protection in the area of South-Eastern Europe, and brings together academic, industrial, governmental and policy stakeholders with an interest in societal safety. Dr Thalia Prastitou Merdi of European University Cyprus, chaired a session on 'EU Funded Actions', presented the GRACE concept, federated learning technical architecture and collaboration's with other projects.

II•ROXANNE final conference

H2020 project ROXANNE organised a hybrid event in Paris (France) for its final conference on November 29th, 2022. Over 100 participants attended to see the project's final results presented by relevant researchers, technical partners and representatives from LEAs. Andrés Vasco, from GRACE partner University of Leon (ULE), attended and took part in a round table with other H2020 projects to discuss common challenges, future collaborations, and similarities with the ROXANNE project.

III•GRACE Consortium meeting

The third GRACE Consortium meeting took place in The Hague (Netherlands) on 16th – 19th January 2023. The two-day session, hosted by Europol, enabled partners to prepare for the 2nd project review meeting in February. Overall, the session was very successful and paved the way for the final stages of the project.

Key project activities

V•EMPACT CSEA kick-off meeting

During the EMPACT Child Sexual Exploitation and Child Sexual Abuse (CSEA) kick-off meeting on 14th February 2023, GRACE was briefly introduced by partner Europol.

An enquiry into the introduction of the GRACE Demonstration Workshop for Law Enforcement Agencies (LEAs) was suggested to those in attendance, which consisted of operational partners of Europol operating in the CSE crime area.
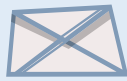
VIII• GRACE 2nd Project Review

We are pleased to report that on 16th February 2023, GRACE partners travelled to Brussels (Belgium) for a very successful 2nd project review by the European Commission. The scope of the review covered all activities that took place between December 2021 and November 2022. The Work Package leaders presented the main achievements within their respective areas as well as the actions taken to address the comments received at the end of the first review period. The updates, together with the tools, demonstrated the excellent progress and quality of the work produced so far within the project.

VIII• CERIS workshops

In February 2023, several GRACE partners attended the Community for European Research and Innovation for Security (CERIS) workshop dedicated to the fight against Child Sexual Abuse. The event, organised by the European Commission brought together practitioners, local authorities, policymakers and researchers to discuss latest insights from ongoing EU-funded projects related to the prevention and detection of Child Sexual Abuse. GRACE partners presented the project and took part in a number of discussion sessions.

On 23rd March 2023, GRACE attended a further CERIS event on the topic of 'future use of Artificial Intelligence (AI) for security purposes'. GRACE project coordinator Peter Leskovsky, attended the event and spoke at the EU security research projects panel about the tools developed within GRACE to help identify victims of child sexual abuse online. Over 90 participants attended the session, including security practitioners, policy makers and researchers together with representatives from industry and civil society.

GRACE Pilots

GRACE's 2nd pilot successfully concluded towards the end of last year. The pilot was structured into 3 distinct exercises:

Exercise 1, 17th – 21st October: An one week exercise was held in Lisbon (Portugal), at the premises of Policia Judiciaria (PJ). This exercise had the goal of piloting individual artificial intelligence (AI) tools, to evaluate their performance against a curated validation dataset and to define an annotated dataset of child sexual explicit material (CSEM) images and videos to be used for training and validation of further AI tools.

The following outcomes were achieved:

- 16 different AI tools were piloted covering all file modalities (image/video, text, audio).

- A defined annotation scheme for CSEM that cover a wide range of detection/classification needs and annotated a large dataset of CSEM images/videos with a high level of granularity.

Exercise 2, September - November: The focal point of this exercise was federated learning (FL). The primary goal was to pilot a FL framework that would prove the concept of remote and decentralized training of machine learning (ML) algorithms and took place across 6 different servers based in 4 different partner locations: Cyprus Police (Cyprus), Policia Judiciaria (Portugal), Vicomtech (Spain) and CERTH (Greece).

The delivered functional FL training environment enables multiple parties to work concurrently on training global ML models that would fit local data, maintaining privacy and security of the data at local level. Through the FL framework, the technician, and the MS LEAs can finally take advantage of the outcomes of the trained models to reuse them throughout the data analysis processes.

Exercise 3, From 28th - 30th November: The final exercise took place once again at the premises of Policia Judiciaria (PJ) in Portugal. A large group of 9 officers from 5 Member State LEAs, 2 officers from Europol, 1 officer from an external LEA, 11 researchers from 6 GRACE technical partners and 2 technical support staff from Europol, came together to pilot an integrated collaborative GRACE platform, where individual tools have been integrated and offered via a complete interactive platform.

The officers evaluated the platform via 4 different scenarios:

1. Managing NCMEC reports
2. Processing a variety of media types and automatically extracting elements via ML algorithms
3. Analysing data automatically extracted from NCMEC reports
4. Generating crime statistics/trends reports

The technical partners collected user feedback in the form of structured questionnaires and unstructured conversations. From this created improvement milestones were established which will be followed until the end of the project in order to implement as many as possible. The final pilot is due to take place in mid October, further updates will be released soon!

AI accountability principles

The Accountability Principles for Artificial Intelligence (AP4AI) project, is jointly conducted by GRACE partners CENTRIC and Europol. Commencing in 2021, the project aims to 'develop solutions to assess, review and safeguard the accountability of AI usage by internal security practitioners in line with EU values and fundamental rights.'

Following the development of AP4AI, and noting the relevant impact the project has already on the LEA research community, GRACE is delighted to have signed a license agreement with AP4AI.

The GRACE tools have been developed with accountability in mind and compliance is key for acceptance of the solution. Therefore, GRACE will complete an assessment, based on the self-assessment toolkit AP4AI provides, for one of the GRACE solutions.

Based upon the results of this initial assessment, GRACE will decide if all GRACE components can be audited based on the AP4AI principles. Visit the AP4AI website for more further information.

Demonstration workshop with LEAs

After three years of internal development, the GRACE project is happy to share the promising results of our research. As we approach the final phase of the project, we will be holding an online demonstration workshop with Member State (MS) LEAs on 20th June June to showcase the capabilities of the GRACE Platform. The aim of the workshop is to demonstrate the results of the GRACE platform and the different tools, to assess the interest of MS LEAs in such tools, and to compile further feedback and input in the usability and relevance of the results.

Should you be interested in getting to know the GRACE Platform and technologies in a hands-on workshop, aimed at member state LEAs operational staff working in the fight against CSEM, email us at grace-fct@shu.ac.uk

Guidelines for First Responders presented across Europe

The guidelines were developed to assist first responding officers when working with suspected victims of CSEM, and provide them with the necessary skills and training to swiftly act in the best interests of the child. Having been prepared in a way that encompasses the unified standards that these officers can use in their daily work,the guidelines equip them with relevant information on how best to respond if officers came across a child suspected of being the subject of sexual abuse.

Since their release in November 2022, the Guidelines for First Responders, produced by Europol's European Cybercrime Centre (EC3), will be embedded in the European Cybercrime Training and Education Group (ECTEG) eFirst project as part of their training module. The guidelines have also been introduced to LEAs at local, national and global levels, GRACE partner Europol has been arduously promoting the guidelines to law enforcement agencies throughout Europe at a number of prestigious meetings, these include:

- 8-10 February 2023, ECTEG (CEPOL), Budapest, HU,
- 21 February 2023, CERIS, EU Commission, Brussels, BE,
- 14 February 2023, EMPACT CSEA event, Europol, The Hague, NL
- 6-9 March 2023, INTERPOL SG CAC, Lyon, FR
- 29-30 March 2023, BKA meeting, Wiesbaden, DE
- 30 May–1 June 2023, AP Twins Annual Expert Meeting, Europol, The Hague, NL

The guidelines have been widely praised after their official release, and many LEAs have voiced an interest in seeing them translated and put into practice.

For more information about the guidelines, visit: https://www.europol.europa.eu/media-press/newsroom/news/child-sexual-abuse-new-guidelines-for-first-responders

Next steps for GRACE...

◄ June 2023 - Demonstration workshop, online

◄ September 2023 - Guidelines for First Responders webinar for LEAs, in cooperation between EUROPOL and CEPOL

◄ October 2023 - Pilot 3, Madrid

◄ November 2023 - GRACE final conference, Madrid

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